

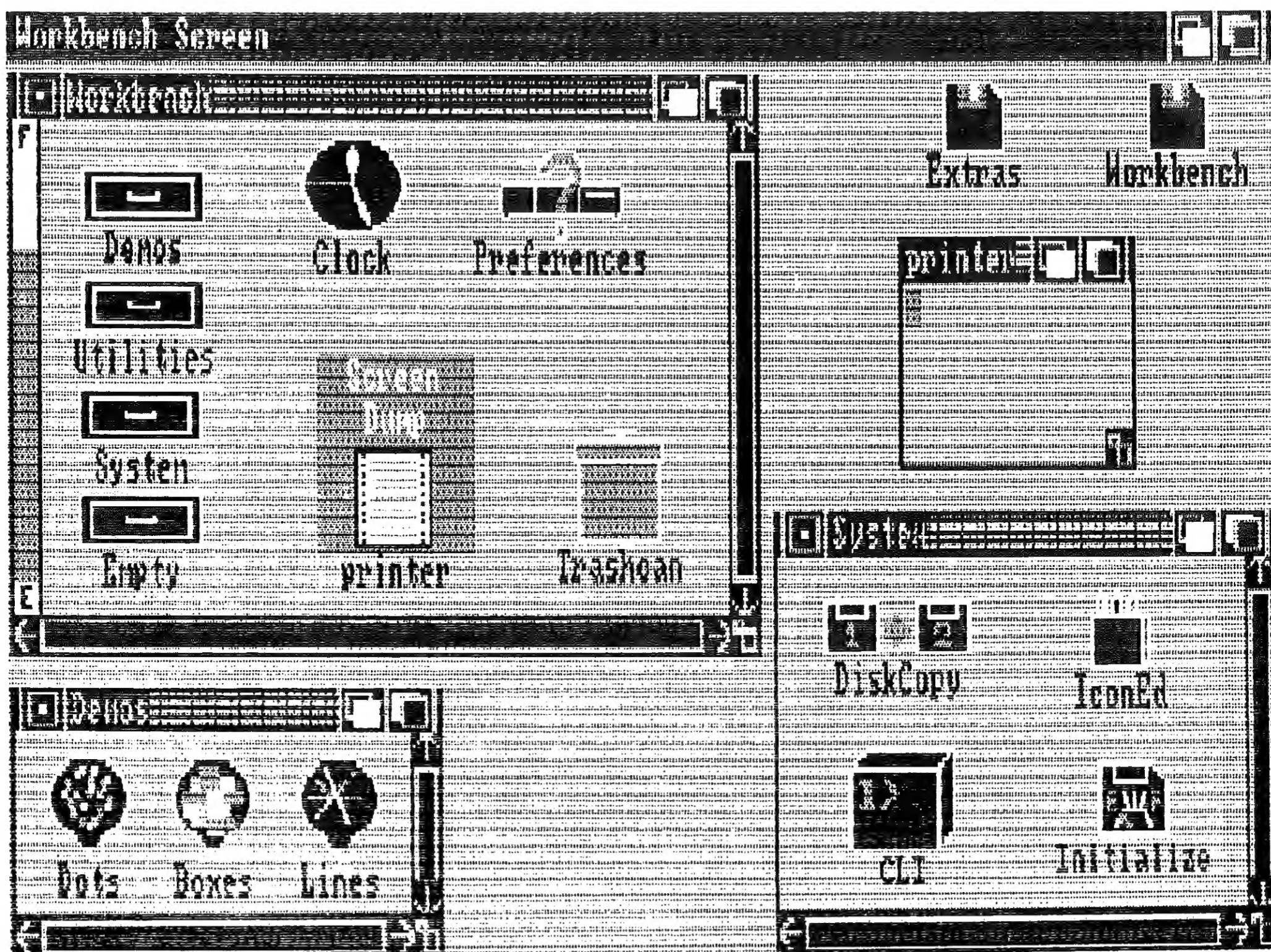
AMIGA

WORKBENCH

FOR THE COMMODORE AMIGA USER

Volume 1, Issue 2

July 1986



Next Meeting: July 13th

See inside for details

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Editorial

Hi! Welcome to the second issue of Amiga Workbench.

What's even worse than not having an Amiga? You guessed it: Having one, then being without it for a month or so! That's what has just happened to me. You see, I sold my Amiga. [WHAT!!!! I hear you say]

There was a good reason, though. At least I thought so at the time. However, as the Amiga-less days dragged on, I began to wonder. Withdrawl might be a good way of describing the weeks.

About a month after I got my (first) machine, Commodore finally got around to offering me a Developer's system. Boy, was I upset. After being told by them that no more of these much sought after systems were going to be available, I went and payed retail for the standard machine. Now, they're offering me what I wanted in the first place. Grrr.

Anyway, they wanted the money up front. Now where else could I get the cash except by selling my current machine. So, I knocked a bit of money off the price, and found an eager buyer. I scratched up the rest of the money, and sent off the cheque. Commodore said it would arrive Real Soon Now. (Now, where have I heard that before . . .)

Then I sat back, Amiga-less, and waited. And waited. And waited. At first, I called weekly to find out the story. Then daily. Then a few times each day. Then, they told me that had sent the machine a few days before my latest call, and I should have already received it. AARRGGHH! Where is it? I looked around the house, just to make sure it hadn't arrived and I hadn't noticed. (Not much chance of that, really, but I had to be sure!) I called the carriers, and their story was that they couldn't find my house, so the driver just took it back to the depot and left it there!

Finally, seven weeks after I got the letter offering me a system, I had the machine. Almost. Somehow, Commodore forgot to send the Kickstart and Workbench disks and manuals with it. Back on the phone again, but I couldn't get through. After trying all day, I sent Commodore a telegram! Here I was, the Amiga crying out for a Kickstart disk, and I had nothing to feed it with. Eventually, I managed to get a copy, and away I went.

At the time of writing, I'm still waiting for my Kickstart and Workbench disks and manuals. But at least I have an Amiga again!

Contributions, Please

This bit gets pretty blunt. I'd like you lot to write articles for the newsletter. Lots of them. Heaven for a newsletter editor is to be buried in excess articles and stories. Sadly, I'm far from heaven at the moment. Part of the reason for the late appearance of this issue is the lack of material.

So, write! Most AUG members have had their machines for a fair while now. What are you doing with them? What do you plan to do with them? Put your thoughts down on paper (or disk) and get a byline in the AUG newsletter. Think of the fame! (Sadly, fortune is not yet available through the newsletter.) Think how good it would sound amongst your achievements in job applications.

Don't think pleading poor grammar or spelling will get you out of it, either. I have dictionaries and thesauruses here that are just itching a chance at something meaty. Never been good at writing? So what. I nearly failed at English at school, and it hasn't stopped me from editing club newsletters. I used to hate writing essays at school, now I'm an editor. Life does extract vengeance.

Now here's a thought for those of you interested in a bit of program hacking! AUG disk volume 13 is almost chock-a-block with all sorts of programs in basic. There's just one tiny little problem- none of them are in the Amiga version of Basic!

Some of the programs look pretty interesting, but they're written in Atari Basic, ABasiC or something equally incompatible. Still, all that's needed is for someone like you to sit down and iron out the problems.

Here's a directory listing of the disk to give you an idea of the sort of programs:

Directory of AUG Disk volume 13

jpad (dir)	
jpad.bas	
toybox (dir)	
toybox.bas	
ezspeak (dir)	
ezspeak.bas	
mandelbrot (dir)	
example1	Mandelbrot.bas
MandelMung	MandelMung.bas
MandelSet.320	POSTER
xmodem (dir)	
xmodem.bas	
ror (dir)	
ror.bas	
3dsolids1.bas	addbook.bas
alg1.bas	algebra.bas
amgseq1.bas	amiga-copy.bas
band.bas	basic.bas
bounce.bas	box.bas
brickout.bas	cancav.bas
cancav1.bas	canvas.bas
cardfi.bas	cardfi.correct
cardfi.startup	charstrip.bas
circle.bas	colorcircles.bas
colorcircles1.bas	Copy.abc
cubes1.bas	cutpaste.bas
date.bas	dog star data
dogstar.bas	dragon.bas
draw.bas	dynamictriangle.bas
Eliza.abc	eliza.bas
ezterm.bas	fillibuster.bas
fractal.bas	fractal17.bas
fractalrep.bas	fractalrepl.bas
fscape.bas	gomoku.bas
gstest.bas	gstest1.bas
haiku.bas	haikucont.bas
ha19000.bas	halley.bas
HauntedM.bas	hidden.bas
join.bas	loz.bas
mandel.bas	menu.bas
menul.bas	minipaint.bas
mouse.bas	mousel.bas
mousemove.bas	Orthello.abc
Othello.abc	patch.abc
pena.bas	pinwheel.bas
qbox.bas	random-circles.bas
README.dist	README.list13
rgb.bas	rgbmenu.bas
rgbmenul.bas	rgbttest.bas
rickstest.bas	Rord.bas
sabotage.bas	salestalk.bas
shades.bas	shapes.abc
shuttle.bas	sketchpad.bas
sp.bas	spaceart.bas
speak.bas	speech.bas
speecheasy.bas	spell.abc
spell.bas	spelling.bas
sphere.abc	sphere.bas
spiral.abc	spiral.bas
striper.bas	superpad.bas
suprsphr.abc	talk.bas
terminal.bas	terminal3.bas
termtest.bas	tom.bas
tom2.bas	topogrp.bas
triangle.bas	uart.bas
wheels.abc	xenol.bas
xenos.abc	XmoStriper.abc

Bix: Byte Information Exchange

Bix is a new information network set up by Byte Magazine in the USA. Although its rather expensive to access from Australia (via Austpac and OTC's Midas into a packet switched network in the USA, then finally to Bix), its well worth the price for the huge amount of Amiga information.

Bix is set up as a conferencing system, and there are currently 26 Amiga conferences active. The titles of the conferences are shown below:

amiga.user/digest	7
amiga.user/memos	2
amiga.user/main	28
amiga.user/basic	87
amiga.user/c.language	43
amiga.user/other.language	14
amiga.user/utilities	9
amiga.user/prod.dscn	88
amiga.user/sources	10
amiga.user/long.messages	26
amiga.user/flames	1
amiga.user/chez.amiga	156
amiga/digest	6
amiga/main	3657
amiga/news	2
amiga/softw.devlpmt	1954
amiga/tech.talk	608
amiga/product.dcsn	944
amiga/tutorial	406
amiga/rjmonrom	130
amiga/amiga68000	64
amiga/other	228
amiga/programs	120
amiga/flames	495
amiga/hardware	203
amiga/lounge	449

The numbers after the conference names are the number of new messages left since my last logon. My previous logon was only 4 weeks earlier, and there are about 6000 new messages! That's about 200 messages per day, only in the Amiga section- there are about 200 or so other sections on various topics, all with a similar number of sub-topics, all with a similar number of messages being left.

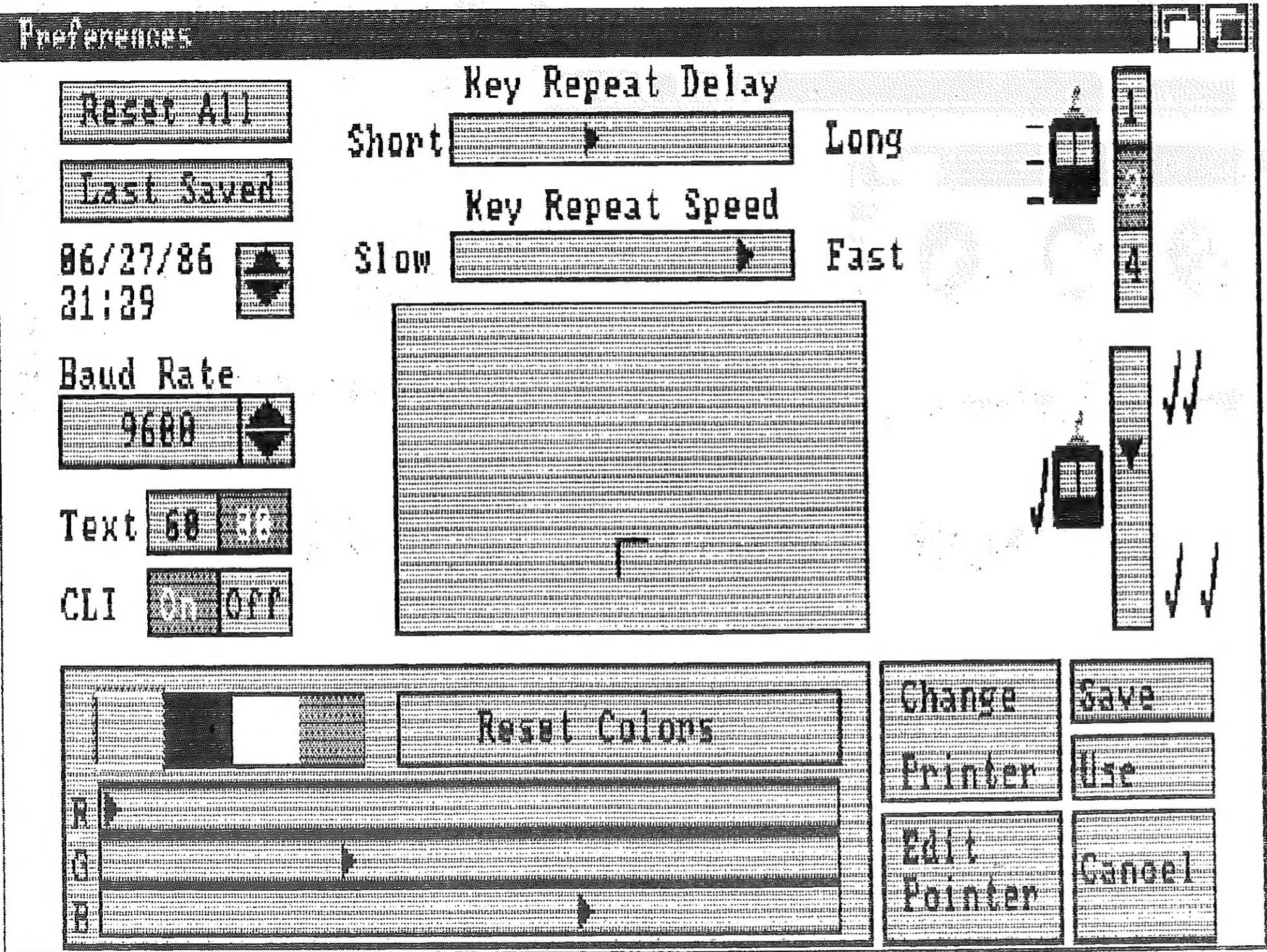
The really worthwhile thing about Bix is that is it used frequently by people who work for Commodore Amiga, and they are friendly enough to answer questions! When you leave a question about some hassle you are having with the Amiga, hardware or software-wise, there's a good chance that the designers could answer your questions!

Unfortunately, the rules and regulations governing the use of Bix stop me from publishing messages from the system in the newsletter. However, I do log all sessions to disk, and I'll bring printed copies along to AUG meetings for members to look at.

Amiga Magazines

Go to a newsagent and take a look at the May 1986 issue of **The Transactor**, a Commodore magazine from the USA. A bit dear at \$7.95, but it has a quick reference guide for AmigaDOS, CLI and ED commands. **COMPUTE!** is also usually worth a look, quite often Amiga articles appear amongst the C64, C128 and Vic articles. The January and February 1986 issues contained articles on AmigaDOS. For the time being, I think **AmigaWorld** deserves a bit of a miss, unless you really can't live without reading everything Amiga that exists. **Byte** magazine is also worth a look nowadays, especially the "Best of Bix" section.

Two other magazines deserve a mention, even though they're not yet available locally. They are **Amazing Computing**, and **The Amigan Apprentice and Journeyman**. We have taken out airmail subscriptions to both magazines, and the first issues should arrive in time for our August meeting.



Interesting Stuff

Not a very good title for a column, is it! However, I'm sure that you'll find at least some of this stuff interesting.

50hz Kickstart Now Available!

Your Amiga dealer should now have a copy of the V1.1 kickstart disk with 50hz modifications. This means that the Amiga's clock will now run at the correct speed! Wow! While it hasn't been officially suggested, if you take a blank disk and proof of purchase to your dealer, I'm sure you'll be able to get an upgrade. How do you know if you need the update? If your kickstart disk has a little "50hz" sticker on it, you've already got it. If it hasn't, your clock will run 20% slow.

June Release Amigas

AUG members who have taken delivery of their Amigas over the past few weeks or so will have noticed a slight problem: The screen image can't quite be moved down far enough, even by setting preferences and the controls on the back of the monitor to their extreme positions. This is rumoured to be due to a new version of one of the custom chips that allows 256 lines to be displayed on the screen. Further rumours suggest that this is the first step to PAL operation for the Amiga. Contrary to what some dealers have been telling purchasers, the current machines **are not** PAL.

So, if you can't centre your screen display, don't take your machine back to your dealer to complain. **ALL** the latest release machines have the same problem. There is yet another rumour about that says that the version 1.2 kickstart/workbench release will fix this problem by allowing the Amiga to use the extra lines, giving you an extra 25% or so of usable screen.

Printer Cable Details

Some people have screamed "too complex" about last issue's printer cable details. So, here's what I did for mine.

Get about 2 metres of ribbon cable 22 wires wide. No, you can't buy 22 way cable, you'll have to get 34 way or something and cut off the excess. Also get a female D-25 (RS-232) IDC (crimp-on) connector, and a IDC centronics connector. Using a normal, everyday, handyman-type vice, crunch the centronics connector onto one end of the ribbon cable, taking care to arrange things so that the side of the ribbon cable with the red line on it is at the pin 1 end of the connector. Now, do the same thing with the D-25 connector at the other end. Remember- red line to pin 1. Just about every IDC connector I've ever seen has the pin numbers marked on it. **Make sure** that the ones you buy have numbers on them!

The only problem with crunching ribbon cable connectors in a vice is that you have to take care to crimp the connectors on at a right angle to the cable. If you stuff it up, you can sometimes use a screwdriver to take the connectors apart again, but you have to be careful.

Finally, there is one wire you have to cut at the D-25 end. You'll need a Stanley knife or very sharp blade to achieve this. The third wire in from the side of the cable **without** the red mark on it is the one that needs to be cut.

If you can manage these simple steps, you'll have saved yourself quite a lot of money over a commercial cable.

Disk Errors

Ever had an error on a new disk? **DiskCopy** doesn't bother doing a verify when you make a copy of a disk, so here's a handy hint. First **Format** the new disk. Format writes a special pattern on the disk, then reads the entire disk to make sure that the disk is okay. After formatting, **then** you can do your diskcopy. It makes sense to be sure that a disk is going to work **before** you try to copy to it.

Interesting Stuff

Power-up Prompts for Time and Date

Here's something to put into the s/startup-sequence file that the Amiga automatically executes at power-up:

```
DATE <"CON:100/100/325/25/Enter date as dd-mmm-yy hh:mm:ss" > * ?
DATE
```

Your Amiga will now prompt you, via a window at the centre of the screen, for the time and date when you power-up your machine.

For those of you who don't know enough about the Amiga to understand what we're talking about, come to the next AUG meeting. Ron Wail will be giving a talk on AmigaDOS and the CLI.

Amiga Graphics Problems with Dot-Matrix Printers

If you've got an Epson or compatible printer, you'll have notices that graphics output from the Amiga isn't the best due to the overlapping of one print line with the next. See the front cover for an example. The problem is that the Epson printer driver sets the line spacing to 7/72" during graphics output instead of 8/72". Now that I've got a set of Rom Kernel manuals, I'll be able to create a printer driver that fixes this problem. Hopefully, I'll have it finished in time for the July meeting. If so, you'll be able to get a copy of the corrected printer driver from me there.

By the way, the graphics dump of the Workbench screen on the front cover was done with my Star Gemini 10x printer using a program on a disk from Commodore UK. I'll also bring a copy of the program to the July meeting.

Promised AmigaDOS article

You won't find the promised article on AmigaDOS and the CLI in this issue. This is because Ron Wail has promised to talk on this subject at the July meeting. Maybe I can talk him into writing the article! You will, however, find a handy **quick reference** chart in this issue.

Bulletin Boards

Here's a list of some of Melbourne's more popular bulletin board systems. All the systems listed below operate 24 hours per day. No doubt there are others that I haven't listed, you should be able to get their numbers from the lists kept on most of the systems shown below.

So, get yourself one of the many public domain Amiga terminal programs and start communicating.

Micom CBMS	762 5088
Melbourne PIE	878 6847
SCUA RBBS	754 5081
PC Connection IBBS	528 3750
Hisoft IBBS	799 2001
AM-NET RBBS	366 7055
National IBBS	819 5582
Victorian Apple Bulletin Board	877 1990

Dear AUG

Hi there! Aunty AUG here, with still more questions and answers about our favourite machine! Here we go:

Dear AUG: I have seen the Amiga demonstrated with the NTSC monitor, the 1080. But the Amiga is being sold with the 1081. The 1080 is a very good monitor. How does the 1081 compare?

A: In my opinion, the 1081 is at least as good as the 1080. The 1081 is a PAL monitor, but as yet there aren't any PAL Amigas. Since the 1081 will run Analogue RGB, that doesn't really matter. The 1080 monitors you will have seen are designed for the USA, and are 110 volt models. All pre-Australian release machines came with these monitors, but just about all dealers should have normal Australian-release machines by the time you read this. Anyway, enough extraneous detail: The answer is the 1080 and 1081 are neck-and-neck as far as quality goes.

Dear AUG: I plan to develop an application which allocates, renames and deletes many files. Byte magazine (Feb 86: Tripos - The roots of AmigaDOS, p.326) states that directory listing and file renaming are slower than in conventional systems. Although I am not interested in directory listing as such, the mention of file renaming worries me. How, too, does file allocation and deletion compare?

A: Yes, the Amiga is slow at reading, writing and updating the directory. File allocation and deletion involve directory operations, so they are also slow. Personally, I don't find the delays objectionable given the other advantages of the machine. Technically, the disk structure is far better than a "conventional" machine, unfortunately its slower. I'm afraid that the only way you'll find out how that affects your application is to find someone with a machine and try out your ideas.

Dear AUG: I've heard that you can change the color registers during horizontal retrace. How do you detect when that is occurring and how much time have you got between retraces?

A: Boy, what a question. The simple answer is that you convince the Amiga to do that sort of thing via Rom Kernel system calls. You tell it what to do, and where on the screen to do it, and the Rom Kernel routines and the custom chips do it for you. This is not the sort of thing that you can do in Basic! If you're really interested in getting that far into the machine, you're going to **have** to invest in a set of developer's manuals. (About \$170 or so at Amiga dealers if you can get them. Hopefully, AUG will eventually have a complete set that we can loan out to members).

Dear AUG: Perhaps you can allay some of the rumours, fears, I have heard about the Amiga. I have heard that it is not a true multi-tasking system; that 512k is not enough ram; that the blitter chip cannot be told to look at any further hardware ram expansion; and that third party ram expansions generally have bugs or that there are problems in expanding the ram. Please answer these queries- it would be greatly appreciated.

A: The Amiga is too multi-tasking! Only this evening my machine was doing two or three other things while transferring this text to another computer via modem. 512k is quite a bit of ram, but you'll need more if you have several large programs you need to run at the same time. At the moment, I'm getting by just fine with 512k. I'd like two megabytes, though! That sounds like just the right amount to cover almost anything that anyone could ever want to do. Ram expansions that are designed correctly work, Ram expansions that aren't probably don't work. I've heard nothing adverse about any of the expansions currently on the market except that they are too expensive! The three custom chips in the Amiga have only 19 address lines, therefore they can only address the internal 512k of memory. This shouldn't be a problem unless you want to use the blitter to move bits around in your program. Once you expand the Amiga's memory, the bottom 512k is used **only** for the video display and buffers, etc. Programs are loaded into your expansion memory. Operating system functions are available to your programs that allow allocation of memory in the lower 512k so your graphics objects or whatever can be put there.

Dear AUG: My parents and a close friend both have 512k MacIntoshes. I am hoping to find some way of using the programs they have for this machine on the Amiga, as suggested would be possible in several reviews written about the Amiga. I am also unsure about the cost of a colour printer for the Amiga. A dealer told my parents it wouldn't be possible to print in full colour for under \$8000 or so. Yet colour printers are advertised for under \$1000. In fact, this dealer has a broadsheet that states 'the okimate 20 thermal transfer printer ... can print in full colour onto paper ... and sells for only \$749'? Perhaps they mean that this printer can print in a limited range of colours such as the seven possible with an Imagewriter II and colour ribbon using a MacIntosh.

A: For the most part, forget about running commercial Mac programs on the Amiga. Basic programs are another matter. Mac basic and Amiga basic are more-or-less different versions of the same thing. In fact the Amiga basic manual contains errata that makes it obvious that it is merely a re-print of the Mac manual. The Okimate 20 is a pretty good printer for the money. In the USA it sells for \$149! Since the "ink" is melted onto the paper, the three colour on the ribbon can mix to produce a large number of colours, in much the same way that a colour television can with the same three colours. The colours aren't quite the same as the Amiga's, but then the Okimate 20 doesn't cost \$8000, does it!

Write about your AMIGA experiences
Share them with other AMIGA Users Group members

AUG's Amiga Quick Reference Guide

ED Commands

Movement:

(Type esc first to use the commands on left)
Esc Key What happens

CL Cursor left (left arrow key)
CR Cursor right (right arrow key)
^I Tab to next
^R Cursor left one word
^T Cursor right one word
CS ^] Cursor to start of line
CE ^] Cursor to end of line
Cursor Up (up arrow key)
Cursor down (down arrow key)
N Next line (start of)
P Previous line (start of)
^E Top or Bottom of screen
^D Scroll text Down
^U Scroll text Up x
B Bottom of file
T Top of file
Mn Move to line# n

Changes (Insert, Exchange, Delete):

S ^M Insert <cr>
A/s/ Insert line before
I/s/ ^A Insert line after
IB Insert block
IF!f! Insert file
DC del Delete character
BS Delete previous char.
^O Delete next word
J ^Y Delete to end of line
D ^B Delete line
DB Delete Block
EQ/s/t/ Exchange w/Query
E/s/t/ Exchange
BE Block End
BS Block Start
SB Show block
F Find
BF Find, backwards
LC Check case in searches
UC Don't check case

Misc:

U Undo changes
RP Repeat til error
SL Set Left margin
SR Set Right margin
ST Set Tab distance
EX Extend right margin
SH Show information
Q Quit (no save)
SA Save file
WB!f! Write block to file
X Exit (and save)
^G Repeat last extended

DOS Commands

; comment
> redirect stdout
< redirect stdin
Assign log dev: dir
Break task# [All] [C] [D] [E] [F]
CD dir
Copy [dir|file] [TO] dir|file
[ALL] [QUIET]
Date [dd-mmm-yy] [[h]h:mm[:ss]]
Delete name[name...]
Dir [dir] [OPT A|D|I]
A=all, D=Dir names only,
I=interactive
Diskcopy DFn: to DFm: [new_name]
Echo "string"
EndCLI
Fault n [n...]
FileNote file "string"
Format DRIVE DFn: NAME "string"
Info
Install DFn:
Join file [file...] AS new_file
List [dir] [P patern] [S pattern]
[KEYS] [[NO]DATES] [QUICK]
[SINCE date] [UPTO date]
MakeDir dir
NewCLI ["x/y/width/height/[name]"]
Prompt "string" (May use %n for
tack number)
Protect file|dir [R] [W] [D] [E]
Rename file|dir file|dir
Run program [arguments] [+
program [arguments] [+...
Search dir|pattern [SEARCH] "string"
[ALL]
Sort file file [COLSTART n]
Stack n
Status [process#] [FULL] [TCB]
[SEGS] [ALL]
Type file [OPT N|H]
Wait n SEC|MIN
Wait UNTIL hh:mm
Why

DOS Execute Commands

Execute file [arguments]
FailAt return_code (from 1 to 2000meg)
IF condition
:
ENDIF
Conditions:
[NOT] WARN|ERROR|FAIL
[NOT] srringl EQ string2
[NOT] EXISTS file
Skip [label]
LAB [label]
Quit [return_code] {0}.pa

Lattice C Compiler

LC1 [LC1Options] program
LC2 [LC2Options] program
LC1Options:
-b nest comments
-cc allow '\$' in symbols
-cd allow 'cc'
-cs use one copy of string
constants
-cu force all "char" to
"unsigned char"
-cw ignore return()'s
-d put debug info in quad
file
-dsymbol[=value]
-iinclude path
-l align data to an even
4 byte address
-n ignore chars 9-31 of
symbol names
-oname output (quad file) name
-p create preprocessor
output only
-u remove predefined
#define's
-x definitions outside
functions are treated
as XREFs not XDEFs

LC2Options:

-f5|6 Use A5 or A6 for -b
option
-oname output (.ld file) name
-s load contiguously

The Linker

Alink file[+file...] [WITH file]
[LIB file[+file...]]
[XREF file] [WIDTH n]
[MAP file] [TO file]
Alink startup.o+foo.o lib lib
lc.lib+amiga.lib to foo.ld

Alink with foo.wth
foo.with: FROM startup.obj*
myfile.o*
TO myfile.ld
LIBRARY lc.lib*
amiga.lib
OVERLAY
a,b
b
*aa,bb
**ccc,ddd

DOS Error Codes

103 Out of memory
120 Command line invalid
121 Not an Object Module
202 Object in use
203 Object exists
205 Object not found
209 Action not known
210 Invalid stream name
211 Object lock invalid
212 Object wrong type
213 Disk not validated
214 Disk Read only
215 Rename across devices
216 Directory not empty
218 Device not mounted
219 Seek error
220 Comment too big
221 Disk full
222 File delete protected
223 File write protected
224 File read protected
225 Not a DOS disk
226 No disk in drive
232 No more DIR entries

Dead End Alerts

68000/68010 errors

0 Call to Debug();
1 --?--
2 Bus error
3 Address error
4 Illegal instruction
5 Division by Zero
6 CHK inst. (shouldn't happen)
7 TRAPV inst. (shouldn't happen)
8 Privileged instruction
9 trace (single step)
A Line 1010 emulator
B Line 1111 emulator
2x Trap instructions 0-E
2F Normal break point

The Assembler

Assem prog [-o outfile] [-c options]
[-i include/group/]
[-l listfile]

options:

S Place symbols in -o file
D No local symbols in -o file
C Ignore label case
X Add xref info to -l file
Wn Set workspace value {8000}

Latest User Group Disks

AUG Library Disk 15

Blobs	A simple graphics program, reminiscent of the unix "worms" program, but in color of course.
Clock	A simple digital clock program designed to be small and to live completely in the screen title bar, where it is out of the way.
Dazzle	An eight-fold symmetry dazzler program. Really pretty!
Fish	"A demo program which runs an AnimOb in a double buffered screen with sequence cycled animation". (Basically shows a fish "swimming" across the top of the screen).
Monopoly	A really nice monopoly game written in AbasiC. Follow the directions in the file "InstallationGuide" to produce a bootable games disk.
OkidataDump	Okidata ML92 driver and WorkBench screen dump program. Does both alpha and graphics. Untested (I don't have the printer)
Polydraw	A drawing program written in AbasiC.
Polyfractals	A fractal program written in AbasiC.

AUG Library Disk 17

This is a copy of a HAM. (HoId And Modify) graphics demo disk received from a vendor that is producing hardware to capture such images, and software to process them.

AUG Library Disk 18

AmigaDisplay	Yet another variation of a terminal emulator program. This is a modified AmigaTerm that can emulate a dumb terminal (interesting paradox here somewhere...), translate line termination sequences, optionally capture or discard control characters in the captured file, use audible bell, use another font, etc.
Ash	Prerelease version of a C-shell like shell program. Has history, command substitution, loops, etc.
Browser	A program that lets you wander around a file tree and peek into files, all with the mouse.
MC68010	Complete information package for upgrading an Amiga to use an MC68010 in place of the MC68000. Includes a software fix that makes this transparent to user programs that use instructions that are privileged on the 68010.
Multidim	Lets you rotate a 2 to 6 dimensional "cube" on the screen using the joystick.
PigLatin	Tired of the "say" command? This one will translate and speak your input in pig latin!
Scrimper	Short for "SCReen IMAge PrintER". A screen dump utility which can be run from the workbench or the CLI.
Xlisp1.6	A very nice little lisp for those that want to study the internals of a real, working lisp interpreter.

AUG Library Disk 19

BlackJack	A line oriented (no graphics) blackjack game.
JayMinerSlides	These are the Amiga slides produced/used by Jay Miner (the designer of Amiga's custom graphics chips) in his talks about the Amiga. They are all hi-res (640 x 400) and are best displayed on a long-persistence color monitor.
Keymap_Test	A program to test the keymapping routines and find possible bugs. Useful as an example of keymapping.
LockMon	Find file locks. Useful for discovering if programs properly clean up after themselves.

AUG Library Disk 20

AmigaToAtari	Source code for an Amiga to Atari ST object code format converter. Takes Amiga objects as input and produces Atari objects as output. This allows the Amiga to be used as a cross development machine providing the proper libraries are available. (Currently does not work, but I don't have an ST to try it with anyway...)
DiskSalv	Program to recover files from a trashed AmigaDOS disk. Can also "undelete" files deleted by mistake, so long as they have not overwritten by further disk activity. Requires two disk drives. VERY useful...
Hash	Small example program that computes the AmigaDOS directory hash function.
Hd	Hex dump utility using some ideas from Mike Higgin's article in Computer Language magazine, Apr 86. Formats the dump based on the natural byte ordering of the machine on which it runs.
MandelBrots	Some mandelbrot images submitted for the "mandelbrot images contest" some months ago. Only three people submitted mandelbrots and these were among the most interesting.
Multitasking	Tutorial and example program for multitasking at the Exec level.
Pack	Program to strip extraneous whitespace from C programs or header files. Can be used to condense the C compiler header files to free up disk space.
PortHandler	A sample Port-Handler program that performs the functions of the standard Port-Handler. Shows what the BCPL environment looks like from the handler point of view.
Random	Random number generator in assembly. Much faster than versions using floating point. Can be used by either assembly or C programs.
SetMouse2	Program to set the mouse port to either the left port or right port.
SpeechTerm	Terminal emulator that can speak the received text. Also has XMODEM file transfer.
Ted	Demo version of an editor that has since been renamed as TXed (I believe).

Bits and Pieces

Those of you who have tried to up and down load Amiga programs may have struck an interesting problem. Normal XMODEM-type programs will transfer files in 128 byte blocks only. An Amiga program, on the other hand, does not usually end up being an even number of 128 byte blocks long. So, XMODEM adds a few bytes to the end of the file to make it an exact multiple of 128 bytes. Sadly, this confuses the AmigaDOS program loader. To get around the problem, you'll need either a special Amiga version of XMODEM (to run at BOTH ends of the link), or a program from the AUG disk library. The magic program is called **FIXOBJ**, and its on disk 10. Fixobj does not need to know the original length of the file, it uses knowledge of the Amiga file structure to perform its function.

Another interesting public domain program is **text.demo** on disk 5. It asks the Amiga to make a list of the available fonts, then opens a window and prints a description of the various attributes that can be applied to the fonts, in the font itself.

If your Amiga seems to crash on you far too often, you might like to try increasing the stack. Seems that AmigaDOS does no stack checking, once the stack overflows you get the infamous "Guru Meditation Number" alert. The stack size can be checked by running the **stack** command from the CLI, and can be changed by including a size parameter on the command line. I've included a **stack 15000** in my s/startup-sequence file so that I don't have to worry about it anymore. The default stack for a new CLI is 4000 bytes. The general rule seems to be if your programs are crashing, **double the stack**.

Whilst on the subject of crashing, the Amiga has a debugger built into the rom kernel. To use it, you'll have to connect a 9600 baud serial terminal to the Amiga's serial port. When you get a "Guru Meditation" alert, simply press the **right** mouse button instead of the left one, and you'll be able to use the debugger from the serial terminal. The debugger can also be run by including the **-debug** option when you load the Workbench. Use this command:

loadwb -debug

This information on **rom whack**, the debugger, has been taken from several sources, but I haven't been able to check it yet. One of the sources suggests that you have to enter **GO** on the serial terminal before it will run the debugger. Anyway, try it out and let me know what happens. You'll probably have to experiment to determine the debugger commands.

Still on the subject of Guru Meditation numbers, some members have asked what they mean. Here's the good oil: The first number is the 68000 exception number that caused the Guru alert. The second number, after the period, is the task "handle" of the process that screwed up. All in all, not very useful info unless you are running rom whack. For the non-rom whacker, the address of the exception frame would have been a better idea.

Several AUG members have indicated that they are going to get a 68010 processor chip to replace the existing 68000 chip in the Amiga. The 68010 is reported to make the Amiga run 5 to 10% faster on average. Some instructions are up to 80% faster on the 68010 compared to the 68000. A 68010 chip will set you back about \$50 or so. Since the 68000 and 68010 processors are pin-compatible, you can simply unplug the 68000 and put a 68010 in its place.

If you want a **real** speed increase, you can get a 68020/68881 board for about \$2500. A lot of money, you might say, but it speeds the Amiga up by 300%! Yes, 3 times the speed! The 68020 is in a completely different package than the 68000, so you need a special adaptor board to make the connection.

AUG Library Disk 21

This is a copy of Thomas Wilcox's Mandelbrot Set Explorer disk.

To run from CLI:

- 1) cd dfX: (where X is drive containing disk)
- 2) mse

To run from Workbench:

- 1) Click on MSD icon.

It contains extensive on-line help information, unlike other Mandelbrot programs distributed in this library. It also is capable of displaying some very pretty hi-res pictures in interlace mode.

AUG Library Disk 22

This disk contains two new "strains" of microemacs, both derived from early releases of Dave Conroy's microemacs. There is currently an attempt on usenet, lead by Dave Brower, to coordinate an effort to merge features from the different versions into a single supported microemacs. In the meantime, perhaps you can find a feature you need in one of these...

AUG Library Disk 23

This disk contains a significantly enhanced version of microemacs based on the version 30 release posted to usenet's mod.sources newsgroup.

Previous versions of microemacs released on these disks derived from a very old version of microemacs. Since that old release, the author has cleaned up lots of loose ends and restructured major parts of the code. Other people have already added support for termcap, ports to other machines and operating systems, and a limited GNU emacs compatibility option.

There currently is a major effort underway on usenet, led by Dave Brower, to standardize microemacs and bring the many variations under one common implementation. Please send any enhancements to rtechidaveb, or send them to me and I will see that he gets them.

AUG Library Disk 24

Conquest	You control an interstellar empire, decide which star systems to explore, which planets to colonize, etc. The computer will also be building its own empire and competing with you for resources. The one with the greatest population at the end wins. First distributed in executable form only on disk number 10. This distribution includes source.
Csh	Second release of a csh-like alternative to the CLI, first released on disk number 14. Has alias, builtin functions like "dir" for speed, history, named variables, command re-execution with substitution, etc.
Modula-2	A pre-release version of the single pass Modula-2 compiler originally developed for MacIntosh at ETHZ. This code was transmitted to the AMIGA and is executed on the AMIGA using a special loader. Binary only.

Just The Beginning

There I was, happy as Larry, playing Jumpman on my 64 and one day I happened to see a copy of APC with an article about this amazing computer. This was my first contact with the Amiga, and from that day I was hooked! Hi-res graphics, midi, multi-tasking, video digitiser ... This was the machine that I had been dreaming about, and it was only going to cost \$3500. Then I heard that it had actually been released, and I started saving my pennies and waited ... and waited ...

One day I was happening by a Newsagents, and this magazine almost threw itself into my hand. It was AmigaWorld #1. My first real contact with this wonderful invention. From then on, I busily scanned the newspapers for signs of the coming of this God, and drooled over my AmigaWorld like a schoolboy does over Playboy.

Sick of waiting, I nearly did it when a friend bought an IBMation. All that for only \$2000. Well, maybe the Amiga wouldn't be that good after all. Then, the word was out: Chambers had imported them. I rushed down there in my lurch hour and breathed hot air all over the glass. I was almost tempted to get one there and then, but something held me back. I was a hell of a lot more expensive than I thought it would be, and there was a problem with the NTSC monitor. Oh no, I thought. I knew something would go wrong with the dream.

Then the release. I saw a demo down at High Tech. I even paid \$10 to go to it. My resolve had returned. I just had to get one! My bank manager groaned when he saw me, but the look of determined bliss could not be contained and soon I was in the shop thrusting the dollars into the dealer's hand. The world was now mine.

But what was this? How do you expect mw to have a computer that does all these wonderful things on it if I can't get any software to run on it. 'Well, we have some games' came the reply. I scouted all known resources and found Animator, Deluxe Paint, Music Studio and Scribble!, so I've got a bit to work on until the real stuff comes along. And along it will come, if the dollar doesn't keep falling to new record lows, and I don't have a heart attack from all this frustration. How much excitement can one person take?

So, is this nearly the end of the story? Don't you believe it. Apparently, Apple are working on the prototype of some strange thing called the Wisconsin or Milwaukee or some other silly name, and are deciding how to market it. Of course it runs about 10 times faster than the Amiga and has about 20 megabytes of memory built-in, and far more colors. One of its problems is how to stop the computer from overheating while operating! It even has some sort of screen that tips on end so that it looks like a sheet of A4 paper.

Amiga Mark III is also on the drawing board. Mark II will be released some time next year. It is not that much different to the current model. But the Mark III, that will be a machine to remember. Soon it will be possible to have an Amiga built up the way you want it. 20 megabyte hard disk? No problem. 40 meg? Of course. Better graphics? Sure. How about 1024x1024. Better sound? Fairlight is getting into the Amiga business. Unix compatible ... new chips ... This is just the beginning. In 10 years time, we won't know ourselves.

And what will we be doing on these wonderful machines? We won't watch movies anymore. We'll make our own. All in real-time digital video colour with quadrophonic sound of course. You just write a script, digitise a picture of yourself (for the hero part) and your friends (for the bad guys), throw in the script and get in there and kill them all or whatever.

Of course, this is also just the beginning. Just imagine, you talk at the screen. You give it a picture of yourself, your mum, your dad, your wife or whatever, and a picture of your house and it plays **you** in real time! Whenever you want to know how your family is getting on, you turn on your computer and see what they're up to. Ooh, look. Since last week, you've had a fight with your wife and now you've found someone new. Or another time you turn it on and find you've just had a baby. Soon, your computer can live your whole life for you. All you need to do it sit back and watch. Even after you've died of cancer or they drop the bomb, you'll still be with the wife and kids, living on in the computer, going through life's little crises.

And then, in about 20 years time, in a dark little corner, there will be a shadowy old screwed up figure huddled over an antiquated machine. It will be me, on my 64. Playing Jumpman.

-- by Bob Scarfe

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PO Box 109, North Balwyn, 3104

Information Page

AMIGA Users Group

The **AMIGA Users Group** is a non-profit, self-help group, consisting of people interested in the Commodore AMIGA computer and related topics.

Club Meetings

The **Amiga Users Group** meets on the second Sunday of each month at:

Victoria College, Burwood Campus, in the
Community Resources Centre (Building E)
(Melways map reference 61 B5)

Coming Meetings

Sunday July 13th Sunday August 10th

Production Credits

This month's **AMIGA WORKBENCH** was edited by Peter Jetson. Equipment and software used was: TurboDOS S-100 computer, Diablo 630 printer, Gemini 10x printer, Wordstar and Fancy Font.

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Contributions

Articles, papers, letters, drawings and cartoons are actively sought for publication in **AMIGA WORKBENCH**. It would be appreciated if contributions were submitted on disk, since that means they don't have to be re-typed! We have access to a wide range of computers, so we should be able to accept almost any type of disk, but AMIGA disks are certainly the easiest. Absolute deadline for articles is the last weekend of the month before the cover date. Contributions can be sent to:

The Editor, **AUG**, PO Box 109, North Balwyn, 3104

AUG Users Group Disks

Disks from the **AMIGA Users Group** Library are available on quality 3.5" disks for \$10 each plus postage. Currently, the group holds 25 public domain volumes, sourced from the USA.

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Application for membership of The Amiga Users Group

Membership is \$20 per year. Make cheques payable to The Amiga Users Group, and send to:

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July 1986 Amiga Workbench

P.O. Box 109, North Balwyn, Victoria, Australia, 3104

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